

# Homework5

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1 得分

A neuron can relay a more intense signal by \_\_\_\_\_.

- ☐ A. sending a longer action potential
- ☐ B. sending an action potential that travels more quickly
- ☒ C. sending more action potentials in a given amount of time
- ☐ D. sending a stronger action potential

[重设选项](#)

Alzheimer's disease is characterized by \_\_\_\_\_.

- ☐ A. extreme mood swings
- ☐ B. loss of energy and suicidal thoughts
- ☐ C. increased energy and extreme talkativeness
- ☒ D. mental deterioration, memory loss, and personality changes

[重设选项](#)

In all types of chemoreceptors, receptor cells develop receptor potentials in response to \_\_\_\_\_.

- ☐ A. the electrical properties of the surrounding cells
- ☐ B. the addition of positively charged proteins
- ☐ C. changes in the movement of the surrounding molecules
- ☒ D. chemicals dissolved in a fluid such as blood or saliva

[重设选项](#)

In contrast to action potentials, receptor potentials \_\_\_\_\_.

- ☐ A. are all-or-none phenomena
- ☐ B. do not rely on changes in the membrane potential
- ☒ C. vary in intensity
- ☐ D. do not require a stimulus

[重设选项](#)



Outnumbering neurons by up to 50 to 1, which cells protect, insulate, and reinforce neurons?

- ☐ A. motor cells
- ☐ B. satellite cells
- ☒ C. supporting cells
- ☐ D. sensory cells

[重设选项](#)

八坝 | OT | -

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1 得分



Realizing that you did not study as much as you needed to for this exam, you start to take the test. However, it is difficult to concentrate because your heart is racing, your stomach seems tied in a knot, you are breathing too quickly, and your mouth is dry. Most likely, you are experiencing the effects of the \_\_\_\_\_.

- ☒ A. sympathetic division
- ☐ B. motor nervous system
- ☐ C. parasympathetic division
- ☐ D. central nervous system

[重设选项](#)

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1 得分

What causes the inside of a membrane to become positively charged during an action potential?

- ☐ A. Negatively charged ions rush in.
- ☐ B. Negatively charged ions rush out.
- ☐ C. Positively charged ions rush out.
- ☒ D. Positively charged ions rush in.

[重设选项](#)

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Where would we expect to find electrical synapses?

- ☐ A. within the heart
- ☒ B. within the brain
- ☐ C. between interneurons and motor neurons
- ☐ D. within the spinal cord

[重设选项](#)

Which of these carry incoming messages toward the cell body of a neuron?

- ☐ A. supporting cells
- ☐ B. axons
- ☒ C. dendrites
- ☐ D. actin filaments

[重设选项](#)

At about what point in gestation can an ultrasound exam determine the sex of the fetus?

- ☐ A. about 20 weeks after fertilization
- ☒ B. at the end of the first trimester
- ☐ C. at the end of the second trimester
- ☐ D. about 4 weeks after fertilization

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1 得分

Eating very spicy food stimulates the release of \_\_\_\_\_.

- ☐ A. glucagon
- ☒ B. endorphins
- ☐ C. insulin
- ☐ D. calcitonin

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1 得分

答案进度

Generally, a cell that is affected by a particular steroid hormone would be expected to have \_\_\_\_\_.

- ☐ A. DNA sites that interact with the hormone
- ☐ B. enzymes that are activated or inactivated by the hormone's second messenger
- ☒ C. a receptor inside the cell that selectively binds the hormone
- ☐ D. a cell-surface receptor that binds the hormone

[重设选项](#)

Hormones regulate \_\_\_\_\_.

- ☒ A. Growth, reproduction, and metabolism are regulated by hormones.
- ☐ B. growth, only
- ☐ C. metabolism, only
- ☐ D. reproduction, only

[重设选项](#)

One of your best friends loves to run long distances. You ask her what she enjoys about running. In addition to good physical fitness, she tells you that after a run she feels extra happy. You suspect that her joy might be related to increased production of \_\_\_\_\_ by the anterior pituitary gland.

- ☐ A. adrenalin
- ☒ B. endorphins
- ☐ C. releasing hormones
- ☐ D. prolactin

[重设选项](#)



What is meant by the term 'gestation'?

- ☒ A. pregnancy
- ☐ B. fertilization
- ☐ C. development
- ☐ D. conception

[重设选项](#)

What is the metabolic abnormality that underlies the characteristic symptoms of diabetes mellitus, such as frequent urination?

- ☒ A. an inability of the body's cells to absorb enough glucose from the blood
- ☐ B. a failure of the kidney tubules to reabsorb enough glucose from the urine
- ☐ C. a failure of the gastrointestinal epithelium to absorb enough glucose from food
- ☐ D. an inability of the body's cells to retain glucose they have absorbed from the blood

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1 得分

Where in a woman's reproductive tract does fertilization most often take place?

- ☐ A. in the follicle
- ☒ B. in the oviduct
- ☐ C. in the ovary
- ☐ D. in the uterus

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答题进度

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1 得分

Which of the following glands secretes hormones that enable the body to respond to stress?

- ☐ A. pancreas
- ☐ B. parathyroid
- ☐ C. pineal
- ☒ D. adrenal

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1 得分

Which of the following hormones causes a rise in the concentration of glucose in the blood?

- ☐ A. insulin
- ☐ B. calcitonin
- ☐ C. melatonin
- ☒ D. glucagon

[重设选项](#)

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1 得分

Which of the following is(are) mostly involved in a long-lasting response to stress?

- ☐ A. androgens
- ☐ B. adrenaline
- ☒ C. oxytocin
- ☐ D. glucocorticoids

[重设选项](#)

Which of the following types of pathogens cause sexually transmitted diseases that are generally NOT curable?

- ☐ A. fungi
- ☐ B. insects
- ☒ C. viruses
- ☐ D. bacteria

[重设选项](#)

Your friend is gaining weight, is often tired, and feels cold. His thyroid hormone level is high as is the level of TSH. Your friend also has a goiter. Which of these diagnoses is the most likely for your friends condition?

- ☐ A. defective receptors for adrenaline in the anterior pituitary
- ☐ B. insufficient chlorine in his diet
- ☐ C. too much iodine in the diet
- ☒ D. defective thyroid hormone receptors in his body cells

[重设选项](#)



'Herd immunity' tends to fail when what percentage of the population is NOT vaccinated?

- ☐ A. 1%
- ☐ B. 5%
- ☐ C. 10%
- ☒ D. 50%

[重设选项](#)

八坝 1011 -

Animals need  $O_2$  because it \_\_\_\_\_.

- ☐ A. helps animals synthesize proteins
- ☐ B. is needed to deliver hemoglobin to the cells of an animal's body
- ☐ C. is necessary to make  $CO_2$
- ☒ D. plays a role in obtaining energy from food

[重设选项](#)

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1 得分

A role of the lymphatic system is to \_\_\_\_\_.

- ☒ A. return tissue fluid to the circulatory system
- ☐ B. produce white blood cells
- ☐ C. produce hormones related to fighting infections
- ☐ D. transport histamine

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1 得分

Antibodies are \_\_\_\_\_.

- ☒ A. proteins consisting of four polypeptide chains
- ☐ B. proteins with short carbohydrates attached
- ☐ C. a type of lymphocyte
- ☐ D. composed of four fatty acid chains

[重设选项](#)

Blood pressure is lowest in \_\_\_\_\_.

- ☐ A. arterioles
- ☐ B. capillaries
- ☒ C. veins
- ☐ D. venules

[重设选项](#)

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Breathing is regulated by \_\_\_\_\_.

- ☐ A. the diaphragm and chest muscles
- ☒ B. control centers in the brain stem (the pons)
- ☐ C. the spinal cord
- ☐ D. the circulatory system

[重设选项](#)

Gas exchange requires a surface that is both \_\_\_\_\_.

- ☐ A. durable and stiff
- ☒ B. thin and moist
- ☐ C. permeable to oxygen and impermeable to carbon dioxide
- ☐ D. protected within the body and connected to the circulatory system

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Histamine \_\_\_\_\_.

- ☐ A. stimulates the release of defensive proteins
- ☐ B. repels phagocytic cells
- ☐ C. attracts natural killer cells
- ☒ D. causes local blood vessels to dilate

[重设选项](#)



How does a shark's cardiovascular system differ from that of a mammal?

- ☐ A. The shark's heart receives both oxygenated and deoxygenated blood
- ☒ B. The shark's heart does not directly pump oxygenated blood to the systemic tissues
- ☐ C. The shark's blood is pumped through open-ended tubes
- ☐ D. The shark's circulatory system has a pulmonary and a systemic circuit

[重设选项](#)

It is best to receive an organ transplant from a donor who \_\_\_\_\_.

- ☒ A. best matches your self (HLA/MHC) proteins
- ☐ B. does not have any allergies
- ☐ C. looks like you
- ☐ D. rarely consumes alcohol

[重设选项](#)

The basic function of cytotoxic T cells is to identify and destroy invaders (in) \_\_\_\_\_.

- ☐ A. interstitial fluid
- ☒ B. blood or lymph
- ☐ C. inside cells
- ☐ D. the immune system

[重设选项](#)

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The immune system is capable of mounting specific responses to particular microorganisms because \_\_\_\_\_.

- ☐ A. the body is able to determine which type of B and T cells to make
- ☐ B. the body is able to make different antigen receptors depending on the invading microorganism
- ☐ C. lymphocytes are able to change their antigen specificity as required to fight infection
- ☒ D. the body contains an enormous diversity of B and T cells, each with a specific kind of antigen receptor

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The primary immune response \_\_\_\_\_.

- ☐ A. peaks about 2 days after first exposure
- ☐ B. triggers the secondary immune response
- ☐ C. results in the production of short-lived memory cells via clonal selection
- ☒ D. results in the production of short-lived effector cells via clonal selection

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The secondary response in the B cell response occurs when memory cells bind to \_\_\_\_\_.

- ☐ A. defensive proteins
- ☐ B. antibodies
- ☐ C. histamine
- ☒ D. antigens

[重设选项](#)

答案进度

Which of the following is a response of our innate defense system?

- ☐ A. cell-mediated immunity
- ☒ B. inflammation
- ☐ C. active immunity
- ☐ D. movement of red blood cells to the affected site

[重设选项](#)

Which of the following types of cells does HIV preferentially infect?

- ☐ A. helper T cells
- ☐ B. phagocytic cells
- ☒ C. cytotoxic T cells
- ☐ D. natural killer cells

[重设选项](#)

Which statement about antigen recognition in B and T cells is TRUE?

- ☐ A. T cell antigen receptors can bind to intact freely circulating antigens
- ☐ B. T cell antigen receptors can bind to intact antigens that are bound to self proteins
- ☒ C. B cell antigen receptors can bind to intact antigens that are on pathogen surfaces
- ☐ D. B cell antigen receptors can bind to intact freely circulating antigens that are bound to self proteins

[重设选项](#)

Why do some viruses mutate faster than others?

- ☒ A. They usually have RNA genomes
- ☐ B. They are usually smaller
- ☐ C. They are usually larger
- ☐ D. They usually have DNA genomes

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1 得分

Why is blood pressure higher during systole than during diastole?

- ☒ A. The contraction of the heart during systole increases the blood pressure against arterial walls
- ☐ B. More blood flows into the heart during systole than during diastole
- ☐ C. The contraction of the heart during diastole decreases the blood pressure against arterial walls
- ☐ D. The relaxation of the heart during systole increases the blood pressure against arterial walls

[重设选项](#)